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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,274	06/27/2003	Satoshi Seo	60188-566	4710

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EXAMINER

NGUYEN, KHIEM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/607,274

Applicant(s)

SEO ET AL.

Examiner

Khiem D. Nguyen

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 7 and 14 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

Applicants' amendment to independent claim 1 obviated the 35 USC § 112, second paragraph rejection in the non-final rejection mailed on September 2<sup>nd</sup>, 2005.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

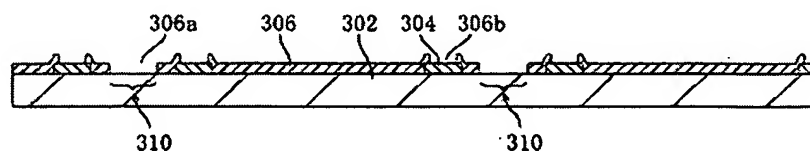
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by the applicant's admitted prior art (AAPA) of this application.

In re claim 1, AAPA discloses a method for fabricating a semiconductor device, the method comprising the steps of (Background of the invention, pages 1-2 and FIGS. 20A-22):

(a) forming bonding pads 304 above a wafer 302 on which semiconductor elements (not shown) and an interconnect layer (not shown) are formed and scribe line regions 310 (Background of the Invention, page 1, lines 10-16 and FIG. 20A);

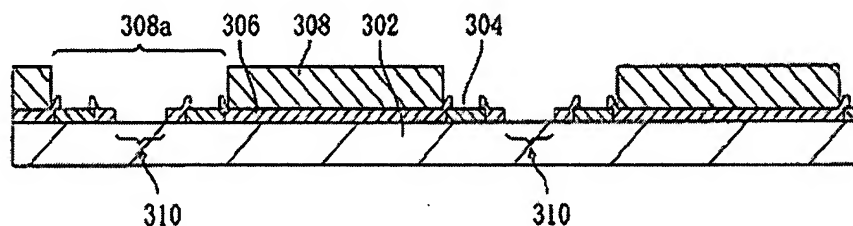
FIG. 20A  
PRIOR ART



(b) forming a passivation film **306** having apertures **306a** and **306b** including regions of the passivation film **306** located above parts of the bonding pads **304** after the step (a) (Background of the Invention, page 1, lines 16-21 and FIG. 20A);

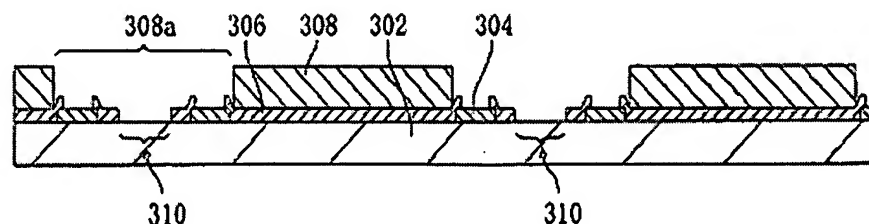
(c) forming a buffer coat film **308** for covering part of the passivation film **306** after the step (b), and removing a region of the buffer coat film extending from an edge of the wafer and located on the whole periphery region having a certain distance from the periphery of the wafer (Background of the invention, page 1, lines 22-26 and FIG. 20B);

FIG. 20B  
PRIOR ART

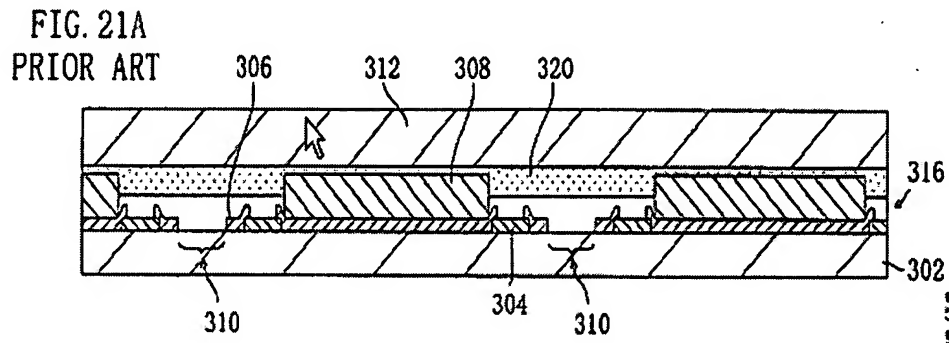


(d) forming, in the buffer coat film **308**, apertures **308a** including regions of the buffer coat film, above the scribe line regions **310** and above the parts of the bonding pads **304**, respectively (Background of the Invention, page 1, line 22 to page 2, line 5 and FIG. 20B);

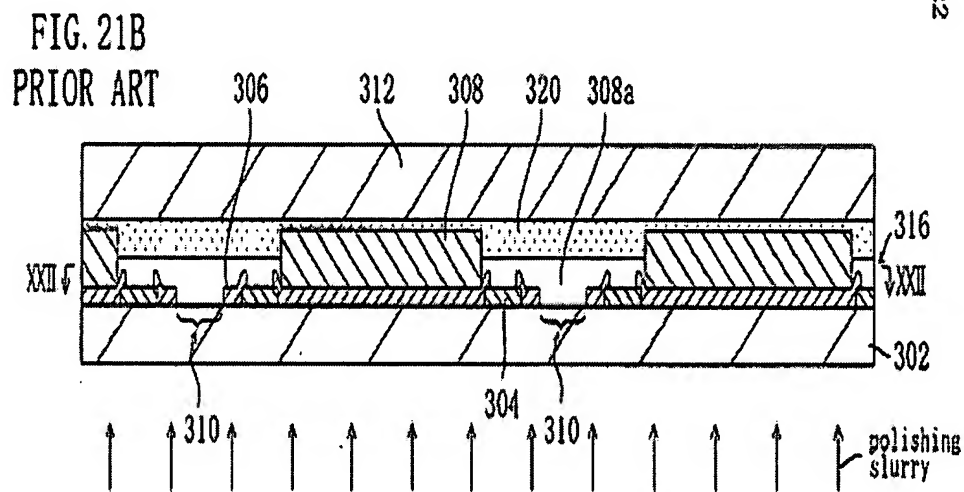
FIG. 20B  
PRIOR ART



(e) bonding a surface protection tape **312** to the wafer using an adhesive material **320** after the step (d) (Background of the Invention, page 2, lines 2-5 and FIG. 21A); and



(f) polishing the rear surface of the wafer **302** after the step (e) (**polishing slurry**) (Background of the Invention, page 2, lines 6-14 and FIG. 21B).



In re claim 2, AAPA discloses that in the step (c), the buffer coat film **308** is formed using a positive-type photosensitive material, and the step (d) includes a process for exposing part of the buffer coat film **308** located on the periphery region of the wafer **302** (Background of the Invention, page 1, lines 22-26 and FIGS. 20A-21B).

In re claim 3, AAPA discloses that in the step (c), the buffer coat film 308 is formed using a positive-type photosensitive material, and the step (d) includes a process for exposing part of the buffer coat film 308 located on the wholes of chip regions (not shown) at least partly overlapped with the periphery region of the wafer 302 (Background of the Invention, page 1, lines 22-26 and FIGS. 20A-21B).

In re claim 4, AAPA discloses that in the step (c), the buffer coat film 308 is formed using an organic resin, and the step (d) includes a process for selectively removing part of the buffer coat film 308 located on the periphery region of the wafer 302 by a solvent (AAPA, page 1, lines 22-26).

In re claim 5, AAPA discloses that in the step (c), the buffer coat film 308 is formed using an organic resin, and the step (d) includes a process for blowing gas on part of the buffer coat film 308 located on the periphery region of the wafer 302 before the curing of the buffer coat film (AAPA, page 1, lines 22-24 and FIGS. 21A-B).

In re claim 13, AAPA discloses that in the step (d), the whole peripheral region refers to circular regions in the periphery of the wafer 302 (FIGS. 20A-21B and related text).

#### ***Allowable Subject Matter***

Claims 6-7 and 14 are allowed.

#### ***Reasons For Allowance***

The following is a statement of reasons for the indication of allowable subject matter: (see Applicants' argument in the Amendment submitted on July 19<sup>th</sup>, 2005 on

page 6, lines 15-19, i.e., claim 6, has been amended to recite in pertinent part, “reducing the thickness of an outermost peripheral part of the buffer coat film”).

***Response to Applicants’ Amendment and Arguments***

Applicants’ arguments filed December 2<sup>nd</sup>, 2005 have been fully considered but they are not persuasive.

Applicants contend that the Applicant's admitted prior art of this application, herein known as AAPA does not suggest an affirmative step of removing the buffer coat film at the edge of the wafer. Applicants further stated that, the initial buffer coat film formed on the substrate (i.e., before apertures 308a are formed) does not appear to extend to the wafer edge to begin with).

In response to Applicants’ contention that AAPA does not suggest an affirmative step of removing the buffer coat film at the edge of the wafer, Examiner respectfully disagrees. Although, AAPA does not explicitly show the removing step of the buffer coat film 308 in FIGS. 20A-B, nowhere in the Background of the Invention in the specification on pages 1-2, suggest that the buffer coat film 308 is selectively deposited. Moreover, as stated on page 1, lines 22-26 of the Background of the Invention, “a buffer coat film 308 made of photosensitive material is formed above the substrate 302 by a spin coating method. Thereafter, parts of the buffer coat film 308 respectively located on the bonding pads 304 and the scribe line regions 310 are removed by lithography, thereby formed apertures 308a”. As a result, portions of the buffer coat film 308 having a certain distance from the periphery of the wafer 302 can be seen in FIG. 21A.

For these reasons, examiner holds the rejection proper.

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D. Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:30 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2823

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K.N.  
February 9, 2006



**W. DAVID COLEMAN**  
**PRIMARY EXAMINER**